

THE EFFECT OF SOCIAL NORMATIVE EXPECTATIONS ON ACADEMIC
ACHIEVEMENT IN AN URBAN MIDDLE SCHOOL

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ABSTRACT

The discrepancy in achievement between socioeconomically advantaged White students and disadvantaged Black and Hispanic students is well documented. Socioeconomically advantaged White students receive significantly higher grades than their socioeconomically disadvantaged minority peers. In reducing this disparity, it is important to understand cultures of academic failure and factors that influence grades. This study sought to define Social Normative Expectations, a construct describing peer expectations of future achievement. The research evaluated the influence of Social Normative Expectations on end-of-year grades in English and math. The sample, $N = 367$, which was 90% Latino and 93% Free and Reduced Lunch, included 7th and 8th grade students from an urban middle school in New Jersey. This study provided evidence of a single, coherent construct of Social Normative Expectations (Cronbach's $\alpha = .89$). However, while Social Normative Expectations accounted for a unique portion of variance in predicting end-of-year English grades (but not math grades) over and above the influence of prior academic achievement, school climate and demographic variables, the direction of the relationship was not as expected. Lower Social Normative Expectations predicted higher achievement in English classes (R^2 change = .02, $F = 11.19$, $p = .01$). The discussion addresses limitations in the study and raises the possibility that perceptions of social norms are group processes that dynamically affect student success, such that a realistic negative perception of future peer success spurs some students to excel so as to not fit the expectation. Implications are addressed for how

school psychologists can help educators think about how school norms might influence student expectations of peer outcomes and subsequent achievement.

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Chapter I

Introduction

The discrepancy in achievement between socioeconomically advantaged and disadvantaged students and between White, Black and Hispanic students is well documented (Brookes-Gunn, 2003). The literature is replete with data suggesting that students from more affluent communities and schools, on average, achieve better than students from under-resourced school districts and communities. White students consistently outperform their Black and Hispanic peers on standardized tests (i.e., reading and math) as well as on other traditional markers of classroom achievement (Taylor & Graham, 2007). Given this discrepancy, it is imperative that interventions are sought to diminish this gap and aim towards providing equal opportunity to minority youth in low-income communities. In order to develop meaningful intervention, the field of school psychology needs to understand factors that influence achievement in low-income, academically underachieving communities.

In developing interventions, it is paramount to understand the historical and current trends in achievement disparity as well as the trajectory of students with different educational outcomes. Trends in academic achievement disparity are well documented within the United States. In the 1960's, the US Department of Education commissioned a report entitled, "Equality of Educational Opportunity," better known as the Coleman Report (Coleman, 1966). The Coleman Report functioned as an initial provocateur in the education community. Despite the desegregation of schools a decade prior, the report described the inferior schooling environments

attended by Black youth. The report suggested that these students had worse academic outcomes relative to their White peers.

More recent data at both state and national levels continue to provide evidence of the *achievement gap* between White students and their socioeconomically disadvantaged minority peers. The National Center of Education Statistics (NCES) published reports on educational outcomes in reading and math of public school students from 1992 through 2009. The reports focused on reading and math scores and compared groups along gender, race, state, English as a second language and socioeconomic status. One such report focused on the *achievement gap* between White and Hispanic students while another report focused on comparing achievement scores of White and Black students (Hemphill & Vanneman, 2011).

The data show significant discrepancies in scores between both White and Hispanic students and White and Black students. In 2009, 4th and 8th grade White students scored, on average, 21 and 26 points higher, respectively, than Hispanic students on standardized math assessments. The national results between these groups on reading assessments followed the same trend. In 2009, White 4th grade students scored, on average, 25 points higher than their Hispanic counterparts; the gap between White and Hispanic 8th graders in reading achievement was 24-points. The trends of these gaps from 1990 to 2009 showed that both groups on average increased their scores, yet the gap remained constant (Hemphill & Vanneman, 2011).

The NCES 2011 report used Eligibility for Free and Reduced Lunch (FARL) as the indicator of socioeconomic status. Students for whom their familial income is

185% of the federal poverty level are eligible for FARL and considered socioeconomically disadvantaged. If a student's family income is 130% of the poverty level they are eligible for 100% free lunch rather than lunch at a reduced-price. In 2009, 76% and 72% of Hispanic 4th and 8th graders were eligible compared to 29% and 24% of White 4th and 8th graders (Hemphill & Vanneman, 2011).

For all groups, students who received FARL achieved significantly lower than peers who were not eligible. White and Hispanic students, on average, scored 20 and 17 standard score points lower than peers who were not considered socioeconomically disadvantaged. Despite this depression of scores, the achievement gap between White and Hispanic students was maintained when only comparing students receiving Free and Reduced lunch. The largest gaps occurred when comparing scores of eligible Hispanic students and non-eligible White students. Independent of academic measure or age, socioeconomically disadvantaged Hispanic students had the lowest scores (Hemphill & Vanneman, 2011).

Similar to trends in achievement between White and Hispanic students, another report found that the *achievement gap* was prevalent between White students and their Black peers (Vanneman, Hamilton, Baldwin-Anderson, & Rahman 2009). In 2007, White 4th and 8th grade students, on average, scored 26 and 31 scaled score points higher, respectively, than Black students in math. National gaps in reading scores were congruent with patterns seen between White and Black students in math. These gaps were 27 and 26 points respectively. Similar to other

trends, both groups' achievement scores rose at similar rates over previous decades, yet the *achievement gap* remained constant (Vanneman et al., 2009).

Within the sample, the study reported that 73% of Black students were eligible for Free and Reduced lunch. This was in comparison to 76% and 72% eligible Hispanic 4th and 8th grader students and 29% and 24% of eligible White 4th and 8th grader students. On all assessments, students who were not eligible (i.e., not determined to be socioeconomically disadvantaged) performed better on reading and math. This was seen in both 4th and 8th grade and occurred independent of race. The biggest discrepancy existed between low-income Black students and economically advantaged White students. In 2007, economically advantaged White 4th graders scored 35 standard score points higher than their low income Black classmates in math and 38 standard score points higher in reading. In the same year, economically advantaged White non- 8th graders scored 42 standard score points higher than their low-income Black peers on math and 36 standard score points higher on reading assessments (Vanneman et al., 2009). This indicates that the biggest discrepancies in scores were between Black students living in poverty and White students not living in poverty.

Achievement discrepancies are meaningful in that they indicate likely differences in development and future life trajectories. There is a multitude of evidence to suggest that academic achievement is linked to a variety of outcomes in adulthood. Students who do not graduate high school, on average, have an income 30% less than students who graduate high school (McMurrer & Sawhill, 1998). Further, students who graduate college earn \$23,000 more annually than students

who only graduate high school (Julian & Kominiski, 2011). Students' grades in school have been linked to a variety of life outcomes associated with physical health and mental health. Students who do better in school tend to be healthier, physically and psychologically, later in life (Allensworth & Easton, 2007; Karoly, 2000).

By contrast, students who do not achieve well academically have more dire outcomes. Students who drop out of school account for at least half of families living on welfare and occupy a similar percentage of the prison population (Educational Testing Service, 2005). In addition, students from low socioeconomic backgrounds are significantly less likely to graduate high school and attend college, leading to poor life outcomes (Boznick, Alexander, Entwisle, Dauber & Kerr, 2010). Ethnic minority students account for the majority of students who drop out of high school, given that White students graduate and go to college at much higher rates than their Hispanic and Black peers (Sciarra & Ambrosino, 2011).

The following sections will review factors that influence student achievement. Of these factors, the following will address ecological variables that dynamically create contexts of lower academic achievement for students in under-resourced communities, including student expectations, academic mindset, stereotype threat, school climate and social norms. Each of these factors may relate to the formation of students' academic expectations for their own achievement and the achievement of their peers.

An Ecological Perspective

From an ecological perspective, there are many influences that account for achievement discrepancies between poor, minority students and their more affluent

White peers. Identifying factors that account for achievement disparity are important in developing meaningful intervention. The factors exert an influence from societal, school, communal, familial, social, interpersonal and intrapersonal domains (Bronfenbrenner, 1979). In concert, they dynamically interact to create an environment with a culture of academic failure within schools and subsequent low achievement. Students embedded in this context are bombarded with a variety of messages, placing them on trajectories of academic failure and life difficulty.

Students attending under-resourced schools in low-income communities are contextually in an environment with less opportunity for educational success. More affluent schools can accommodate student needs with smaller class sizes and better resources. Smaller classes allow for better teacher-student relationships, which have been shown to have a positive effect on student achievement (Crosnoe, Kirkpatrick- Johnson & Elder Jr, 2004). Schools that are underfunded, by contrast, typically have high student-faculty ratios, worse student-teacher relationships and fewer tangible resources (Eamon, 2005). Students in under-resourced schools typically perform worse academically than their peers in more advantaged school settings, likely due to stressed learning environments (Eamon, 2005).

Poor student-teacher relationships are an especially important impediment to student achievement. Teacher expectations about their students' achievement are highly predictive of student success. Gregory and Huang (2013) found that over and above student and parent educational expectations, teacher expectations were most strongly associated with student achievement. In their sample of 4,094 high school students from a diversity of economic and racial backgrounds, teacher expectations

were more predictive of achievement for low-income students than for more affluent students. This may suggest that teacher expectations have a protective effect for at-risk students (Gregory & Huang, 2013).

Family variables are also complicit in the achievement disparity. Socioeconomic status (SES), a composite measure of parents' educational attainment, occupational status and income, has become a reliable indicator of educational achievement. Students from low-SES families tend to perform significantly worse than peers from more affluent backgrounds (Hochschild, 2003). Many children from low-SES backgrounds come from families that have difficulty focusing on their academic achievement due to competing pressures from a variety of stressors, or lack the social and/or cultural capital for achievement (Patrikakou, Weissberg, Manning, Walberg, & Redding, 2005). Evidence in the literature suggests that parental involvement and expectations, especially in low-income students, moderate student performance such that parent college-going expectations of their children are associated with student grades (Elliott, 2008).

Low-income family units are typically stressed from living in poverty, attempting to accommodate their difficult living conditions. As a result, they are less focused on their child's achievement (even though they may care a great deal about it) and have less academic support at home (Patrikakou et al., 2005). Many of these students are also born into single parent homes and are living in poverty-laden neighborhoods wrought with difficulties, such as exposure to violence, that their more affluent peers do not encounter. All of these factors have been shown to have adverse effects on academic achievement and future life success (Eamon, 2005).

Within low-socioeconomic, minority samples, boys have shown to receive lower scores in academic achievement than girls. Specifically, this pattern has been evidenced in samples of Black students (Franklin & Boyd-Franklin, 2000). This gender gap in achievement begins to emerge in middle school. These students are considered “at-risk” for a variety of outcomes such as suspensions, poor academic achievement and school drop out. For these students, poor academic achievement is related to poor academic outcomes in the future (Mickelson & Greene, 2006).

The Role of Student Expectations About Their Future Learning and Success

In addition to family and resource factors, there are a variety of social and cognitive influences that impact how well a student learns and achieves academically. Among these, expectations about achievement are integral to how a student will achieve. Students develop beliefs and expectations about their potential for future achievement and these expectations are associated with their actual future academic outcomes (Benner & Mistry, 2007). In a sense, their expectations and beliefs reflect a culmination of messages and experiences of the many influences on students and how they frame the educational opportunities available to them.

Students who have positive expectations about their educational attainment develop optimistic ideas about their potential and achieve in accordance with these notions (Losel & Farrington, 2012). Kim and Sherraden (2011) found, in a sample of 632 9th and 10th grade students, that early student expectations about achievement were predictive of high school completion and college attendance. Within this sample, the relationship between a student’s financial assets and their educational attainment was mediated by their educational attainment expectations. Another

study found that while considering standardized test performance and grades, student expectations of achievement at age 14 were predictive of their actual achievement at age 26 (Mello, 2008). In a sample of middle class Black boys, students' educational expectations during high school were predictive of their educational status one year after graduation (Wood, Kurtz- Costes & Copping, 2011).

Positive educational expectations may be a protective asset for vulnerable at-risk youth (Sandefur, Meier & Campbell, 2006). In a sample of 1500 low-income, minority students from high-poverty neighborhoods in Chicago, Ou and Reynolds (2008) longitudinally followed students from birth through high school. The researchers measured students on a variety of socioeconomic, attitudinal, school-related and familial variables. They investigated how these factors, individually and interactively, were associated with the number of years completed of school, high school graduation and school drop out. Students who endorsed expectations of attending college were twice as likely to graduate high school, even when a host of other factors were accounted for in the analysis. These findings suggest that independent of other factors, students who have positive academic expectations are more likely to succeed in a low-SES, predominately minority school setting (Ou & Reynolds, 2008).

The Role of Academic Mindset

In combination with student expectations about learning, students' academic mindsets are also important to their achievement. Carol Dweck defines an *academic mindset* as beliefs about the changeability of one's academic trajectory and their

attributions of what controls their success. Dweck categorizes *academic mindset* into two varieties; *growth* and *fixed*. Individuals with a fixed mindset believe that their intelligence rather than hard work is responsible for achievement. These students do not believe that hard work can change their performance. In contrast, students with a growth mindset believe that hard work rather than innate intelligence is responsible for their success. These students endorse beliefs that effort can change academic success rather than ability and that they have the ability to improve and change (Dweck, Walton & Cohen, 2011).

Students who endorse growth academic mindsets have better academic outcomes than students who endorse fixed academic mindsets (Dweck et al., 2011). In a study examining the impact of academic mindset on GPA, researchers asked college students to write letters to confederate middle school “pen pals” about the nature of intelligence with regard to academic achievement. The treatment group participants were told to write letters emphasizing the idea that intelligence is malleable (growth mindset). Relative to members of a control group, who were not instructed to write their “pen pals” about the growth mindset, participants in the experimental group had a GPA, on average, of .23 grade points higher than control group participants, a statistically significant improvement. The promotion of the growth mindset increased the possibility and potential for academic achievement. This encouraged the idea that academic success is malleable via hard work rather than innate intellectual ability, which exists independent of hard work. Furthermore, Black students in the experimental group, specifically, endorsed more

engagement and enjoyment of school than Black students in the control group (Aronson, Fried & Good, 2002).

In one study, Blackwell and colleagues (2007) designed an eight-session intervention targeting the academic mindsets of New York City middle school students. In the intervention condition, students learned that intelligence is malleable (growth mindset) such that working on challenging tasks increases your brain's strength. In contrast, students in a control group simply learned study skills. Over the course of the year, students who learned the growth mindset performed better in math than students in the control condition. Further, the math scores of students in the control condition, who had not learned the growth-mindset, declined by the end of the school year (Blackwell et al., 2007).

The Role of Stereotype Threat

Part of how individual student expectations and mindsets are developed is related to the context in which a group of students live (Yair, 2000). In a series of studies, Aronson and Steele (1995) experimentally provided evidence to suggest that the power of *stereotypes* about a group can have significant effects on the group's achievement. In one study, Black and White college students were administered a truncated version of the verbal component of the Graduate Record Examination (GRE). In the experimental condition, students were told that the exam was diagnostic of their intellectual ability. This was done to prime the racial stereotype that Blacks have low cognitive abilities. In the control condition, students were told that the exam was not representative of their ability. In the experimental condition, White students outperformed their Black peers. However, in the control

condition, where the threat of a negative stereotype was not primed, both Black and White students scored comparably (Steele & Aronson, 1995).

In another study by Aronson and Steele (1995), students were asked to complete a standardized exam. In this study, students in the control condition simply completed the examination. In the experimental condition, the students were asked to answer a question indicating their race prior to answering the items. When students were asked to indicate their race, Black students, on average, scored twice as low as White students. When the question regarding race was removed in the control condition, the results were significantly different. White students scored the same but Black student's scores increased dramatically, performing comparably to their White peers, indicating that when a stereotype about achievement is not primed, Black students perform significantly better (Steele & Aronson, 1995).

The cognitive threat of fulfilling a negative stereotype is related to the research on academic expectations. Aronson and Steele suggest that when Black students have negative expectations about their academic abilities, and these expectations are primed, they tend to perform in accordance with these expectations (Steele & Aronson, 1995). It is theorized that this influences Black students to withdraw effort from academic pursuits creates a self-fulfilling prophecy by which they achieve in accordance with what they believe about themselves (Bandura, 1986, 1997).

School Climate and Achievement

The climate of the school in which a student learns is an additional factor that influences academic achievement. A school's climate is multidimensional and

includes relationships between students and staff, the norms and values in the school, and the physical structure of the building (Perkins, 2006). Although there is not a consensus regarding validity of the construct, there are various components most researchers agree are important. These include psychological and physical safety, relationships, including connectedness and social support, supportive learning and the general layout of the physical building (Clifford, Menon, Condon & Hornung, 2012).

The literature on school climate has established a link between a school's climate and the effectiveness of the school (Edmunds, 1982; Lezotte, 1990). It has been shown that a school's climate is related to students' academic achievement (Stewart, 2007), students' behavior, and students' decisions to remain or drop out of school (Loukas & Murphy, 2007). Schools with a positive climate have higher standardized test scores and better teacher comments on student report cards (DiStefano, Monrad, May, McGuinness & Dickenson, 2007). Specifically for Black males, research has shown that a negative school climate is associated with internalizing and externalizing behavior problems as well as lower rates of academic achievement (Kumperminc, Leadbeater, Emmons & Blatt, 1997).

Studies have shown a direct correlation between school climate and academic achievement. Evidence of this relationship has been seen in elementary school (Sherblom, Marshall, & Sherblom, 2006), middle school (Brand, Felner, Shim, Seitsinger, & Dumas, 2003) and high school (Stewart, 2008). In one study, researchers measured the school climate of 29 suburban schools in Texas. The study found that the more positive a school's climate, the higher were their scores on

statewide academic assessments. High achieving schools had a more positive climate than medium achieving schools, which had better school climates than lower achieving schools (Macneil, Prater & Busch, 2009).

Given the influential role of academic expectations (Gregory & Huang, 2013) and school climate (Macneil, Prater & Busch, 2009) with regard to academic achievement, schools serving low-income students have begun to focus on these tenets to improve academic and life outcomes. An illustrative example offers a portrait of how schools are doing so. For example, KIPP schools, an acronym for Knowledge is Power Program, specifically target low-income, minority students from disadvantaged communities. KIPP schools have gained national attention through Paul Tough's book, *How Children Succeed: Grit, Curiosity and the Hidden Power of Character*. Tough discusses that *effort-minded beliefs*, beliefs that effort determines success, and grit (a term popularized by Angela Duckworth), has aided in helping KIPP schools promote positive values regarding achievement to their students (Tough, 2012). In contrast to a typical public education, which focuses on basic skills in math and reading, KIPP schools focus on creating school environments with high academic expectations and positive school climates (KIPP Report Card, 2012).

KIPP schools have shown significant improvements in the academic and life outcomes of their students. A study of 24 KIPP schools suggested that academic gains were significantly higher than national norms (Educational Policy Institute, 2005). Currently, there are 125 KIPP schools. In these schools, 95% of students are Black or Latino and 86% of students qualify for Free and Reduced Lunch (FARL).

According to their most recent annual review in 2012, 96% of KIPP classes outperformed local districts in reading and 92% of classrooms outperformed local districts in math (KIPP Report Card, 2012). Over and above state testing outcomes, the major goal of KIPP schools is for students to graduate high school and attend and graduate college. Nationally, 72% of low-income students graduate high school. Low-income students in KIPP schools have a 93% graduate rate, exceeding the national average by 3%. Compared to 10% of low-income students who graduate college nationally, 40% of KIPP students graduate from four-year colleges, 7% higher than the U.S. national average (Fry & Parker, 2012).

The Role of Social Norms

Embedded within a school's climate are the social and peer norms of students. Schools are social contexts in which peers model for each other behavior and attitudes (Steinberg, 1996). These group attitudes, or social norms, are very powerful in shaping behavior. As a result, adolescents often are more likely to behave in accordance with social norms rather than personal best interests (Siu, Shek, & Law, 2012). For instance, in one study, the best predictors for marijuana use in a sample of adolescents were the norms of their peer group. Adolescents were more likely to use marijuana when they associated with friend groups who positively endorsed usage (Hohman, Crano, Siegel, & Alvaro, 2013).

Peer influence is important in the acquisition of attitudes and social norms among adolescents. The process of "acquiring" characteristics of peers is well established (Bukowski, Brendgen & Vitaro, 2007). Peers have been shown to affect each other on levels of depression, aggression and various other behaviors and

characteristics (Dishion & Dodge, 2005). These influences occur on multiple levels. As a result of adolescent motivation to form relationships, they attempt to *enhance* commonalities within peer groups, rather than differences (Lightfoot, 1997). On a broader level, outside of peer groups, adolescents are influenced by and motivated to adhere to larger group norms. The broader group provides specific climate norms that are favorable or not favorable. These messages become strong determinants of adolescent behavior and affect group belonging, a specific motivator for this developmental stage (Chang, 2004).

As a result of the influence of peer norms on friend groups and broader social affiliations, such as a student's grade level, the attitudes of peers are an important influence on student achievement. Friend groups who endorse positive or negative values regarding academics can have a profound impact on the achievement of students. Students who report more negative peer values regarding school have less school engagement than students who endorse lower levels of negative peer values (Howard, Dryden, & Johnson, 1999). This is important as school engagement is closely related to academic outcomes such as grades and test scores (Van Acker & Wheby, 2000). Students affiliated with social groups that, on average, endorse lower academic expectations, perform similarly to these expectations. This is particularly salient for minority students in contexts with low academic expectations (Harvey, 1963).

Adolescents' views of academic success are often correlated with the views of academic success of their peers in their social context. In a study by Bukowski, Velasquez and Brendgen (2008), 415 11-13 year old boys and girls rated

perceptions of their own feelings and their perceptions of students in their school with regard to tolerance of aggression and the importance of doing well in school. They found that the students' views of aggression were strongly associated with the views of their friend group as well as those of students in the larger group. Students' views of the importance of school success were also significantly correlated with views of their friend group as well as with the average views of the larger group. This is to say that students' own attitudes regarding aggression and importance of school success were strongly related to those of their peers and those of the larger peer groups of which they were embedded (Bukowski et al., 2008).

Implications for Practice

In 2001, Congress passed No Child Left Behind (NCLB), the Bush administration's staple initiative to reduce the achievement gap and raise academic achievement. NCLB emphasizes raising test scores through state accountability. Each year, states are responsible for meeting progressive standards in achievement called Annual Yearly Progress (AYP). AYP is evidenced through proficiency standards in statewide math and reading assessments. As an incentive to meet AYP, NCLB linked accountability standards with funding. States who fail to meet AYP are subject to losses in educational dollars and possible state take-over. Overall, the goal is to have all states reach *proficiency* in reading and math by 2013-2014 (Dee & Jacob, 2011).

Each year, states engage in *high stakes testing*, evaluating all students' achievement in reading and math and using these scores as metrics of student success. There are mixed results with regard to how well NCLB has increased

achievement scores. Dee and Jacob (2011) found that, nationally, since the institution of NCLB, there have been statistically significant increases in math scores of 4th and 8th grade students. However, other studies have questioned the efficacy of NCLB (Fuller, Wright, Gesicki & Kang, 2007). With regard to reading assessments, Dee and Jacob (2011) found that there have been no statistically significant increases in achievement. Of particular interest, multiple studies have shown evidence that there has not been a significant reduction in the achievement gap between White and low-income, minority students, one of the stated goals of NCLB (Dee & Jacob, 2011; Neal & Schanzenbach, 2010).

Interventions aimed at changing educational expectations, improving school climate and academic mindsets have shown more relative success in increasing academic achievement and reducing achievement gaps (Blackwell, Trzesniewski, & Dweck, 2007). In comparison to traditional interventions developed to meet proficiency standards mandated by NCLB, such as interventions aimed at basic skill development in reading and math, these interventions have evidenced increases in likelihood of graduation from high school, reductions in delinquent behavior, and improved quality of life (Walton & Cohen, 2007). In contrast to basic skill intervention that have not achieved the gains NCLB has sought, these interventions, targeting thoughts regarding achievement rather than reading and math skills, have shown lasting effects over months and academic terms (Gehlbach, 2010).

School psychologists searching for interventions to increase the academic and life success of low-SES, minority youth need malleable factors as their focus. Improving school climate has the potential to engender students' expectations about

achievement in school and life in that they come to see themselves in an environment in which they feel a greater sense of support, influence, and potential accomplishment. Experiences in such an environment communicate a growth mindset. This is a point of intervention that is amenable to change, cost-effective and capable of producing lasting positive outcomes.

Of particular importance, interventions targeting school climate and achievement mindsets may reduce the achievement gap. Disadvantaged students learning within positive school climates that are focused on growth academic mindsets and positive academic expectations may perform more similarly to their more advantaged White peers. This may close the achievement gap by providing a learning context for disadvantaged students that is similar to the learning context experienced by more socioeconomically advantaged peers, a learning context with high expectations and social norms that promote attainable academic growth.

The Present Study

School climate was measured periodically in an urban middle school in New Brunswick, NJ. Within this school, 98% of students were minority youth and 94% receive Free and Reduced Lunch. Students in this middle school learn in the shadow of the high drop out rates at the district high school. For example, in 2012, 58% of students in a cohort graduated from the high school, one of the lowest graduation rates in the State of New Jersey (New Jersey Department of Education, 2012). Proficiency assessment scores in reading and math, as measured by state testing, ranked in the 9th and 14th percentile in the State of New Jersey, respectively (New Jersey Department of Education, 2012). As a result, the school's academic

performance received a status of a *priority* school, indicating that the school achieves below the average performance for a school in the state (New Jersey Department of Education, 2012).

As noted earlier, expectations and social norms are likely linked to student academic behavior. To measure students' perspectives on their peers' expectations about a range of social norms, items of the climate survey asked students to rate the degree to which students in their school would endorse various aspects of the school culture and their future academic and personal outcomes. By asking students about how their peers might rate the items, in contrast to asking students questions with regard to their own individual views, the focus was on identifying perceptions of social norms with regard to expectations of future academic achievement and quality of life.

Ideas about ones' future are influential in promoting a self-fulfilling prophecy such that expectations about the future impact behaviors in the present. As a result of the influence of peer norms, social norms regarding future academic and quality of life expectations within a school that are endorsed by students may be related to their own current academic achievement. By endorsing normative expectations of their peers, students may be indicating their perception of their own academic and personal future, which in turn may be reflected in their academic performance.

The present study built on prior research on the impact of social norms and expectations of achievement and explored whether perceptions of social normative expectations pertaining to high school graduation, college attendance, future

community involvement, family life, and health and job attainment were related to academic grades. The study sought to ask the following questions.

I. Are social normative expectations (i.e., graduating high school, job attainment) appropriately measured as a single coherent construct?

It was hypothesized that the items measuring social normative expectations would load onto a single factor (not multiple factors) and thus reflect the unidimensionality of the construct.

II. Do ratings of social normative expectations differ as a result of gender, socioeconomic status, race/ethnicity and grade?

It was expected that social normative expectations would not differ as a result of gender, origin of birth, socioeconomic status, race/ethnicity or grade.

III. Are social normative expectations for urban middle school students associated with academic achievement above and beyond school climate?

It was hypothesized that students who endorsed more positive social normative expectations would have higher academic achievement, over and above the influence of school climate. This is to say, that no matter how the students view the school climate, social normative expectations would be linked to student academic achievement.

IV. Is the strength of association between social normative expectations and academic achievement greater for relatively lower vs. higher SES students within this low SES sample?

It was hypothesized that there would be a stronger association between social normative expectations and academic achievement for lower SES students. This is to say that, compared to higher SES students, for lower SES students, positive social normative expectations would be more strongly associated with higher academic achievement, implying that social normative expectations might buffer the effect of lower SES on achievement.

Chapter II

Method

The current study used data from the *Transforming New Brunswick Middle School into a School of Character and Excellence Project*. The goal of the project is to transform NBMS into a school of character with a positive, respectful climate to promote academic, behavior and life success. Currently, NBMS is designated a “focus” school, which is indicative of a significant failure history, outside of that expected by schools with similar demographic circumstances, and the threat of state takeover if adequate progress is not made. Indicators of this status include high dropout rates, aggressive student behavior, gang involvement and poor academic scores on both state assessments and within the core curriculum (New Jersey Department of Education, 2012).

Implementation of the project began in 2012-2013. The mainstay of the project was collaboration between faculty from NBMS and graduate students from the Social-Emotional Learning Lab at Rutgers University. The project adhered to a 3-year timeline adopted from the Developing Safe and Civil Schools Project whereby the school climate and indicators of the school’s functioning were initially assessed, areas of need identified, interventions developed and progress monitored.

Participants

The New Brunswick Middle School is comprised of grades 6 through 8; however, the data set includes 7th and 8th grade students, given *prior achievement* data were only available for these two cohorts. The sample consisted of 367 students, comprising 58% of the total population of 7th and 8th graders ($n = 638$) for

whom complete data on all variables were available. Subsequent analyses on demographic and study variables revealed no systematic differences between the sample used in the study and the excluded population of 7th and 8th graders.

The sample was 55% male ($n = 202$). Students in 7th grade comprised 55.9% ($n = 205$) of the sample. The majority of the student population identified as Latino/Hispanic (76.3%, $n = 280$) with smaller groups of students identifying as Multiracial (13.9%, $n = 51$), Black (4.9%, $n = 18$), White (.3%, $n = 1$), and Other ethnicities (4.6%, $n = 17$). The majority of the sample reported being born in the United States (76.8%, $n = 282$). With regard to students not born in the United States, within the sample 13.1% ($n = 48$) were born in Mexico, 4.1% ($n = 15$) from Central America, 5.7% ($n = 21$) from the Caribbean and .3% ($n = 1$) from South America. The majority of students qualified for Free and Reduced Lunch (FARL). Most students received Free Lunch (85.6%, $n = 314$) with fewer students receiving Reduced Lunch (7.9%, $n = 29$) and 6.5% ($n = 24$) of students not receiving Free and Reduced Lunch. These data were collected from periodically administered climate surveys and presented below in Table 1.

Procedures

Data were collected as part of a school-wide intervention at New Brunswick Middle School during the 2012 to 2013 academic year. Students and their parents were informed that students would be asked to complete a survey with questions about school climate and aspirations during an extended homeroom period; they were then given the opportunity to opt out of the screening both through a passive consent form sent home to the parents and an assent form given to the students

prior to survey administration. This study was approved by the Institutional Review Board at Rutgers University.

Table 1

Demographic Characteristics of New Brunswick Middle School Sample

	N	%
<i>Grade</i>		
7 th	205	55.90%
8 th	162	44.10%
<i>Ethnicity 1</i>		
Black	18	4.90%
White	1	.30%
Hispanic	280	76.30%
Multiracial	51	13.90%
Other	17	4.60%
<i>Ethnicity 2</i>		
Latino	331	90.20%
Non-Latino	36	9.80%
<i>Gender</i>		
Female	165	45.00%
Male	202	55.00%
<i>Country</i>		
United States	282	76.80%
Dominican Republic	19	5.20%
Ecuador	1	.30%
El Salvador	1	.30%
Honduras	14	3.80%
Mexico	48	13.10%
Puerto Rico	2	.50%
<i>Origin of Birth</i>		
Outside USA	85	23.20%
Inside USA	282	76.8%
<i>Free and Reduced Lunch</i>		
Full Price	24	6.50%
Reduced Lunch	29	7.90%
Free Lunch	314	85.60%

Measures

Socioeconomic Status. Socioeconomic status was measured using student eligibility for Free and Reduced Lunch (FARL). Students for whom their familial income is 185% of the federal poverty level are eligible for FARL and considered socioeconomically disadvantaged. If a student's family income is 130% of the poverty level, they are eligible for 100% free lunch rather than lunch at a reduced-price. Students not eligible for FARL, classified as higher income, were coded as "0", and students eligible for FARL, classified as lower income, were coded as "1". There were no theoretical or statistical distinctions made between students receiving Free lunch and Reduced lunch.

School climate. School Climate was measured using the School as a Caring Community Profile (SCCP). The survey measures perceptions of school climate and asked students to endorse the degree to which the items reflect their perceptions of their school as well as the future of the student body. The measure was developed by the Rutgers' Developing Safe and Civil Schools (DSACS) project, building on Lickona & Davidson's School As A Caring Community Profile- II (SAACCP-II, 2001). There are versions for both staff and students. This version of the questionnaire consisted of 20 items which are rated by participants on a 5 point Likert Scale ranging from *I strongly disagree* (1) to *I strongly agree* (5). The measure had a Cronbach alpha of .85 from this sample. The version of the questionnaire used is listed in Appendix A. A table outlining the qualitative description of School Climate total score ratings is below.

Table 2

<i>Description of Range of Scores for School Climate</i>	
Climate Score Range	Description
20.00 – 34.80	Strongly Negative
35.00 – 54.80	Negative
55.00 – 64.80	Neutral
65.00 – 85.00	Positive
85.00 – 100.00	Strongly Positive

Social normative expectations. In order to measure social normative expectations, participants rated six items adapted from Ou and Reynold's (2008) study on educational attainment in the Chicago Public Schools. Items such as "*will you graduate high school?*" were modified to, "*will students in your school graduate high school?*" to measure perceptions of social norms regarding expectations of the future. These items had good reliability as indicated by a Cronbach's Alpha of .89 from this sample. Participants rated items on a 5 point Likert Scale ranging from *I strongly disagree* (1) to *I strongly agree* (5). Higher scores indicated more favorable ratings of Social Normative Expectations. The items included the following:

- (1) In the future, most students from this school will graduate high school
- (2) In the future, most students in this school will go to college
- (3) In the future, most students in this school will have a job that pays well
- (4) In the future, most students in this school will contribute meaningfully to our communities
- (5) In the future, most students in this school will have a happy family life
- (6) In the future, most students in this school will stay in good health most of the time.

Item means were used to determine qualitative descriptions of means for the 6 items above. Table 3 describes the relative strength and weakness of a total Social Normative Expectation Score.

Table 3

Description of Range of Total Scores for Social Normative Expectations

Range of Total Scores	Description
6.00 – 10.44	Strongly Negative
10.50 – 16.44	Negative
16.50 – 19.44	Neutral
19.50 – 25.44	Positive
25.50 – 30.00	Strongly Positive

Academic achievement. Academic achievement was measured using end-of-year academic scores in students' English and math courses. *Overall English Course Grades* were collected at the end of the academic year. Grades were obtained via a 1 through 100 scale whereby 100 is the highest score possible. *Overall math Course Grades* were collected at the end of the academic year.

Grades were obtained via a 1 through 100 scale whereby 100 is the highest score possible. Grades above 90 are considered an A, grades between 80-89 are a B, 70-79 is a C, 60-69 is a D and below 60 is considered an F.

Descriptive statistics were used to provide an overview of the sample. This was done using means, ranges and standard deviations. Pearson correlations were used to observe relationships among all variables being measured.

- I. **Are social normative expectations (i.e., graduating high school, job attainment) appropriately measured as a single coherent construct?**

Exploratory factor analysis was used to determine if the six specific items loaded onto a single construct or multiple factors. Principal components analysis was used to identify variables that have more in common with each other than other variables. The hypothesis would have been supported if items load onto a single factor that represents the six items termed social normative expectations.

II. Do ratings of social normative expectations differ as a result of gender, socioeconomic status, race/ethnicity and grade?

Independent T-tests were used to describe means on social normative expectations across a range of student groups.

III. Are social normative expectations for urban middle school students associated with academic achievement above and beyond school climate?

Multiple linear regression analyses were used to examine the relationship between social normative expectations and academic achievement. Academic achievement was measured by final year grades in math and English. Grades rather than standardized tests were used because of literature supporting grades as better predictors of high school graduation, college performance and longer-term life outcomes than standardized tests (Allensworth & Easton, 2005). As Weinstein (2002) has discussed, prior achievement is an important confound in examining the relationship between expectations and achievement. Gender, race, ethnicity, origin of birth

and grade level were entered into the first block. Prior academic achievement was entered into the second block to control for the influence of prior grades. In the third block, school climate was entered in order to control for the role of school climate in this relationship. School climate was measured by using students' overall climate score based on four domains of school climate data. In the fourth and final block, social normative expectations were entered in order to see the influence of this factor on academic achievement, above and beyond the influence of other variables. Social normative expectations were defined both in terms of the score obtained by the student on the measure, as well as a discrepancy score indicating the extent to which the student's own score deviates from overall social normative expectations. Analysis sought to find the unique variance accounted for by social normative expectations on academic achievement. The hypothesis would have been supported if regression estimates were found to be significant and positive. R-squared change yielded a measure of the percent of variance explained by social normative expectations- a measure of effect size.

IV. Is the strength of association between social normative expectations and academic achievement greater for relatively lower vs. higher SES students within this low SES sample?

Multiple regression analyses were conducted to examine the relationship between social normative expectations, socioeconomic

status and academic achievement. An interaction term was created to test the possible moderating effect of SES on the link between social normative expectations and achievement. The hypothesis would be supported if the interaction term was found to be significant and positive. R-squared change yields a measure of the percent of variance explained by the interaction term- a measure of effect size.

Chapter III

Results**Demographics**

For the 2012-2013 school year, the mean end-of-year grades for math and English of $N = 367$ students were 73.26 ($SD = 11.99$) and 73.50 ($SD = 10.35$) respectively. This means students, overall, scored in the C- range for English and math. Math grades were significantly different by grade level as 7th grade students ($m = 74.55, sd = 10.62$) outperformed 8th grade students ($m = 71.63, sd = 13.39$), $t(365) = 2.33, p = .02$. Math grades significantly differed as a result of gender as well. Female students ($m = 75.43, sd = 10.29$) significantly outperformed their males classmates ($m = 71.49, sd = 12.98$), $t(365) = 3.17, p = .002$. Female students also outperformed their male classmates in English as females had mean end-of-year scores of 76.91 ($sd = 9.22$) and males had mean end-of-year scores of 70.72 ($sd = 10.42$), $t(365) = 5.96, p < .001$. English and math grades differed as a result of Free and Reduced Lunch eligibility as well. For English grades, students eligible for Free and Reduced Lunch ($m = 74.03, sd = 9.74$) had higher scores than non- eligible students ($m = 65.96, sd = 15.09$), $t(365) = -3.76, p < .001$. For math grades, students eligible for Free and Reduced Lunch ($m = 73.67, sd = 11.72$) had higher grades than students who were not eligible ($m = 67.42, sd = 14.40$), $t(365) = -2.49, p = .013$.

End-of-year English and math grades of $N = 367$ students from the 2011-2012 school year were used to measure prior academic achievement. Students had mean English scores of 74.83 ($SD = 10.72$) and mean math scores of 71.37 ($SD = 13.13$). There was a significant difference in math scores between 7th and 8th graders as 8th

grade students ($m = 73.93, sd = 9.94$) scored higher than their 7th grade peers ($m = 69.35, sd = 14.90$), $t(365) = -3.37, p = .001$. There were gender differences in math and English grades as well. In terms of math grades, female students ($m = 73.33, sd = 12.16$) scored higher than male students ($m = 69.76, sd = 13.96$), $t(365) = 2.61, p = .009$. Female students ($m = 78.76, sd = 9.47$), relative to their male classmates ($m = 71.63, sd = 10.64$), had higher grades in English as well, $t(365) = 6.71, p < .001$. In addition, English scores varied as a result of eligibility for Free and Reduced Lunch. Students who were not eligible for Free and Reduced Lunch ($m = 69.40, sd = 7.64$) had significantly lower end-of-year English scores than students receiving Free and Reduced Lunch ($m = 75.21, sd = 10.81$), $t(365) = -2.59, p = .01$. Descriptive results are located below in Table 4 and Table 5.

Table 4

<i>Descriptives</i>			
	Mean	SD	Range
Final Math Grade (2012)	71.37	13.13	27-96
Final Language Grade (2012)	74.83	10.72	31-98
Final Math Grade (2013)	73.26	11.99	27-98
Final Language Grade (2013)	73.50	10.35	28-94

Table 5

Differences in Descriptive Variables

	Final Math Grade (Spring 2012)		Final Language Grade (Spring 2012)		Final Math Grade (Spring 2013)		Final Language Grade (Spring 2013)	
	M	SD	M	SD	M	SD	M	SD
Grade Level								
7 th	69.35	14.90	74.67	11.58	74.55	10.62	73.27	10.44
8 th	73.93***	9.94	75.04	9.55	71.63*	13.39	73.79	10.26
Ethnicity 2								
Latino	71.69	12.78	75.03	10.10	73.33	12.18	73.41	10.51
Non-Latino	68.42	15.93	73.00	13.36	72.61	10.25	74.31	8.91
Gender								
Female	73.33	12.16	78.76	9.47	75.43	10.29	76.91	9.22
Male	69.76**	13.69	71.63***	10.64	71.49**	12.98	70.72***	10.42
Origin of Birth								
Inside USA	71.72	12.54	73.89	10.96	73.01	12.10	73.55	9.32
Outside USA	71.26	13.32	75.12	10.65	73.34	11.89	73.49	10.66
FARL								
Full Price	69.21	14.94	69.40	7.64	67.42	14.40	65.96	15.09
Free and Reduced	71.52	13.0	75.21*	10.81	73.67*	11.72	74.03*	9.75

Note. Statistical significance based on independent *t*-tests; * $p < .05$, ** $p < .01$, *** $p < .001$

Factor Analysis to Define Construct

An exploratory factor analysis was conducted to assess whether the 6 items measuring social normative expectations loaded onto a single construct or whether, using a principal component extraction method, they loaded onto multiple factors. One factor accounted for 65.5% of the variance, suggesting that social normative expectations represent a single construct. A plot of eigenvalues for this analysis can be found in Appendix C. Cronbach's alpha based on the 6 items was .89. The item analyses for the 6 items are listed in Table 6. Factor loadings and the factor analysis for the construct are listed in Table 7 and Table 8.

Table 6

Item Analysis for Social Normative Expectation

	Corrected Item-Total Correlation	Cronbach's Alpha if Deleted
Graduate High School	.74	.87
Go to College	.76	.87
Job that Pays Well	.75	.87
Contribute to Community	.67	.88
Happy Family Life	.67	.88
Good Health	.71	.88

Table 7

Factor Loadings for Items of Social Normative Expectations

Item	Factor 1	Factor 2	Factor 3	Factor 4
Graduate HS	.824	-	-	-
Go to College	.846	-	-	-
Job that pays well	.838	-	-	-
Contribute to Community	.770	.456	-	-
Happy Family Life	.773	-	-	-
Good Health	.800	-	-	-

Table 8

Factor Analysis for Items of Social Normative Expectations

Item	Eigenvalue	Percentage of Variance
Factor 1	3.930	65.50
Factor 2	.563	9.39
Factor 3	.488	8.13
Factor 4	.405	6.76

Correlations

Pearson correlations were calculated between school climate, social normative expectations, 2012 English grades, 2012 math grades, 2013 English grades and 2013 math grades, to observe correlations between variables and observe multicollinearity. Social Normative Expectations were significantly

negatively correlated with end-of-year English grades, $r(365) = -.132, p = .012$. This is to say that more positive ratings of the perceived expectations of students in school were significantly correlated with lower English grades. Social Normative Expectations were not correlated with end-of-year math grades.

School climate was significantly positively correlated with Social Normative Expectations, $r(365) = .52, p < .001$. This is to say that when students perceived a higher school climate, they also perceived higher Social Normative Expectations. School climate was not significantly correlated with end-of-year math or English grades.

End-of-year math and English scores in 2011-2012 were positively significantly correlated, $r(365) = .67, p < .001$. End-of-year scores in math and English scores in 2012-2013 were significantly and positively correlated, $r(365) = .65, p < .000$. Math scores in 2011-2012 were positively significantly correlated with math scores in 2012-2012, $r(365) = .53, p < .001$, and English scores in 2011-2012 were positively significantly correlated with English scores in 2012-2012, $r(265) = .60, p < .001$. Math grades in 2011-2012 were positively and significantly correlated with English grades in 2012-2013, $r(365) = .56, p < .001$, and English grades in 2011-2012 were positively and significantly correlated with math grades in 2012-2013, $r(365) = .43, p < .001$. A table of Pearson correlations can be found in Table 9.

Table 9

Pearson Correlations of Variables Studied

	1	2	3	4	5
1. Math Final Grade 2011-2012	--				
2. LA Final Grade 2011-2012	.67***				
3. Math Final Grade 2012-2013	.53***	.43**			
4. LA Final Grade 2012-2013	.56**	.60**	.65**		
5. Social Normative Expectations	-.04	-.09	-.03	-.13*	
6. Fall School Climate	.05	-.02	.08	.02	.52***

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Description of Social Normative Expectations and Differences Amongst Groups

Students in the sample had a mean of 18.53 ($SD = 5.61$) on ratings of Social Normative Expectations. According to the overall item mean, this indicates a *neutral* sentiment. Descriptive information on these variables can be seen below in Table 10. Overall, students in the sample had a mean School Climate score of 66.43 ($SD = 13.21$). This indicates a *slightly positive* school climate. School Climate scores did not vary across demographic groups.

Table 10

Description of Social Normative Expectations and School Climate Scores

	Mean	SD	Range
Social Normative Expectations	18.53	5.61	6-30
School Climate (Fall 2012)	66.43	13.21	27-104

Note. Item means were used to determine qualitative descriptions of means. Social Normative Expectation means: Strongly Negative (6.00- 10.44); Negative (10.50- 16.44); Neutral (16.50- 19.44); Positive (19.50- 25.44) Strongly Positive (25.50- 30.00). School Climate Means: Strongly Negative (20.00- 34.80); Negative (35.00- 54.80); Neutral (55.00- 64.80); Positive (65.00- 85.00); Strongly Positive (85.00- 100.00).

Independent *t*-tests were used to analyze group differences in scores on Social Normative Expectations within the sample. Gender, Socioeconomic Status,

ethnicity, origin of birth and grade were analyzed. Ratings of Social Normative Expectations varied significantly as a result of being born in the United States. Students born outside the United States ($m = 20.16$, $sd = 5.35$) rated significantly higher and *positive* Social Normative Expectations for students in their school than students born in the United States ($m = 18.03$, $sd = 5.59$), $t(365) = 3.110$, $p = .002$, whose ratings were *neutral*. There were no significant differences in ratings of Social Normative Expectations as a result of gender, FARL, ethnicity and grade level.

Table 11

Differences Among Groups on Ratings of Social Normative Expectations and School Climate

	Social Normative Expectations		School Climate (Fall 12')	
	M	SD	M	SD
Grade				
7 th	18.40	5.61	66.57	13.10
8 th	18.69	5.61	66.26	13.38
Ethnicity				
Latino	18.65	5.63	66.74	13.16
Non-Latino	17.38	5.37	63.61	13.47
Gender				
Female	18.94	5.57	66.92	13.43
Male	18.19	5.63	66.03	13.04
Origin of Birth				
Outside USA	20.16	5.36	68.25	13.42
Inside USA	18.03**	5.60	65.88	13.12
FARL				
Full	17.42	5.68	62.21	12.30
Free and Reduced	18.60	5.60	66.73	13.23

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Hierarchical Regression Analysis Predicting English and Math Grades

In order to test the hypothesis that Social Normative Expectations predict end-of-year grades in English and math, separate hierarchical regression analyses

were used. The analyses controlled for a variety of variables that have been shown to influence achievement and may confound the hypothesized relationship.

Gender was entered into the first block of the analysis. In the second block, Free and Reduced Lunch status, grade level and Origin of Birth (Inside or Outside the United States) was entered. The third block included prior academic achievement in English or math in the form of the end-of-year grade for the previous school year. The fourth block controlled for School Climate. Finally, Social Normative Expectations variables were entered in successive analyses.

Final English grades. Gender, entered in Step 1, accounted for approximately 9% of the variance in end-of-year English grades (R^2 change = .09, $F = 35.47$, $p < .001$). In the second block, Free and Reduced Lunch, grade level and Origin of Birth (Inside or Outside the United States) accounted for an additional 4% of the variance (R^2 change = .04, $F = 5.38$, $p = .01$). The third block, prior academic achievement in English, accounted for the most variance in the model. Prior academic achievement accounted for 25% of the variance in predicting end-of-year English grades (R^2 change = .25, $F = 148.28$, $p < .001$). School climate was entered into the fourth block and did not account for any additional variance when entered in this step (R^2 change = .00, $F = .17$, $p = .68$).

In the fifth and final block, Social Normative Expectations was entered. Social Normative Expectations accounted for 2% of the remaining variance (R^2 change = .02, $F = 11.19$, $p = .01$). In the final model, gender ($\beta = -2.87$, $p = .01$), Free and Reduced Lunch (FARL) ($\beta = 5.07$, $p = .01$), prior English achievement ($\beta = .506$, $p < .001$), School Climate ($\beta = .08$, $p = .04$) and Social Normative Expectations ($\beta = -.302$,

$p = .01$) were all predictive of end-of-year English grades. School Climate was predictive of English grades as part of the final model, but was non-significant in the previous block. A follow-up test entering an interaction term with School Climate and Social Normative Expectations was run and was not significant. This is to say that, accounting for covariates, School Climate did not independently predict variance in English grades but accounted for variance when included in the model with Social Normative Expectations. Given that Social Normative Expectations significantly accounted for an additional 2% of the variance in the final block, this suggests that over and above the influence of the variables entered into prior blocks, Social Normative Expectations were predictive of end-of-year English grades. This means that students who rated more negative Social Normative Expectations of peers in their school received significantly higher grades in English class. This was an unexpected finding. A table describing this analysis can be found in Table 12.

Final math grades. Gender was entered into the first block and accounted for 3% of the variance in predicting end-of-year grades in math (R^2 change = .03, $F = 10.04$, $p = .01$). The second block included Free and Reduced Lunch (FARL), grade level and Origin of Birth (Inside or Outside the United States). The second block accounted for an additional 3% of the variance (R^2 change = .03, $F = 4.08$, $p = .01$). Previous math achievement was entered into the third block. Prior academic achievement in math accounted for the largest percentage of the variance, 29% (R^2 change = .29, $F = 162.95$, $p < .001$). School Climate was entered into the fourth block. Similar to the model predicting English grades, School Climate did not account for any of the variance in end-of-year math grades (R^2 change = .00, $F = .765$, $p = .38$).

Social Normative Expectations were entered into the final block. Social Normative Expectations were not significant in accounting for additional variance in end-of-year math grades (R^2 change = .00, $F = .93$, $p = .34$).

The final model was not significant in accounting for additional variance in predicting final year math grades. Social Normative Expectations did not account for any variance in end-of-year math grades. In the final model, gender ($\beta = -2.27$, $p = .03$), grade level ($\beta = 5.10$, $p < .001$), Free and Reduced Lunch (FARL) ($\beta = 4.88$, $p = .02$) and prior academic achievement in math ($\beta = .502$, $p < .001$) were significant in their contributions to the variance predicting end-of-year math grades.

Table 12

Hierarchical Regression Analysis Predicting End-of-year English Grades

	B	SE B	β	R ²	Change in R ²	F for R ² Change
Step 1				.09	.09	35.47***
Constant	76.91***	.77				
Gender	-6.19 ***	1.04	-.30			
Step 2				.13	.04	5.38**
Constant	69.66***	2.39				
Gender	-6.26***	1.03	-.30			
Grade Level	.44	1.03	.02			
Origin of Birth	-.62	1.21	-.03			
FARL	8.09***	2.06	.19			
Step 3				.38	.25	148.28***
Constant	31.77***	3.71				
Gender	-2.56**	.92	-.12			
Grade	.26	.86	.01			
Birth Origin	-.88	1.02	-.04			
FARL	5.00**	1.75	.12			
Prior LA Grade	.52***	.04	.54			
Step 4				.38	.00	.17
Constant	30.83***	4.35				
Gender	-2.54**	.92	-.12			
Grade Level	.26	.87	.01			
Origin of Birth	-.85	1.03	-.03			
FARL	4.94**	1.76	.12			
Prior LA Grade	.52***	.04	.54			
School Climate	.01*	.03	.02			
Step 5				.40	.02	11.19**
Constant	33.78***	4.38				
Gender	-2.87**	.91	-.14			
Grade Level	.34	.85	.02			
Origin Birth	-1.35	1.03	.06			
FARL	5.07**	1.74	.12			
Prior LA Grade	.51***	.04	.52			
School Climate	.08*	.04	.10			
Social Norms	-.30**	.09	-.16			
Step 6				.41	.01	3.78
Constant	43.56***	6.66				
Gender	-2.89**	.91	-.14			
Grade Level	.29	.85	.01			
Origin of Birth	-1.51	1.03	-.60			
FARL	-5.41	5.67	-.13			
Prior LA Grade	.51***	.04	.52			
School Climate	.08***	.04	.11			
Social Norms	-.87**	.31	-.47			
FARL X SNE	.60 ⁺	.31	.41			

Note. * p =trend, * p <.05, ** p <.01, *** p <.001

Overall, these data suggest that Social Normative Expectations do not account for any additional variance in end-of-year math scores over and above the influence of the above variables. A table of values for this analysis can be found below in Table 13.

Hierarchical Regression Analysis with Expectation x FARL Interaction

In order to test the possible moderating effect of socioeconomic status on the relationship between Social Normative Expectations and end-of-year English and math grades, an interaction term was created between Social Normative Expectations and Free and Reduced Lunch (FARL), the measure of socioeconomic status.

English grades. In the final model, the interaction of FARL and Social Normative Expectations was not significant in predicting grades. However, it was observed as a tendency toward significance ($\beta = .41, p = .053$). In this final model, gender ($\beta = -.14, p = .002$), previous English grades ($\beta = .52, p < .001$), School Climate ($\beta = .11, p = .029$) and Social Normative Expectations ($\beta = -.47, p = .005$) were significant in predicting variance in end-of-year English grades. An overview of this model can be seen above in Table 6A.

In probing the interaction of FARL and Social Normative Expectations, the data were split into groups above and below the 30th percentile of ratings on Social Normative Expectations. Students below the 30th percentile in ratings of Social Normative Expectations had higher grades than students with higher ratings regardless of receiving or not receiving Free and Reduced Lunch. A graph of this interaction can be viewed in Appendix B.

Math grades. The interaction between FARL and Social Normative Expectations was entered into the sixth and final block. This interaction did not account for any additional variance in predicting math scores (R^2 change = .00, $F = .01$, $p = .915$). In the final model, gender ($\beta = -.09$, $p = .03$), grade level ($\beta = -.22$, $p < .001$) and previous math grade ($\beta = .55$, $p < .001$) were significant in accounting for variance in math scores. Overall, the interaction of FARL and Social Normative Expectations was not significant as a model in predicting end-of-year math grade. An overview of this model can be seen above in Table 13.

Table 13

Hierarchical Regression Analysis Predicting End-of-year Math Grades

	B	SE B	β	R ²	Change in R ²	F for R ² Change
Step 1				.03	.03	10.04**
Constant	75.43***	.92				
Gender	3.94**	1.24	-.16			
Step 2						
Constant	71.19***	2.28		.06	.03	4.08**
Gender	-4.02**	1.24	-.17			
Grade Level	-2.96*	1.23	-.12			
Origin of Birth	-.28	1.46	-.01			
FARL	6.22*	2.47	.13			
Step 3				.35	.29	162.95***
Constant	35.96***	3.65				
Gender	-2.21*	1.04	-.09			
Grade Level	-5.25***	1.04	-.22			
Birth Origin	-.04	1.22	-.00			
FARL	5.01*	2.06	.10			
Prior LA Grade	.51***	.04	.56			
Step 4				.35	.00	.77
Constant	33.85***	4.38				
Gender	-2.18*	1.04	-.09			
Grade Level	-5.23***	1.04	-.22			
Origin of Birth	.04	1.22	.00			
FARL	4.86*	2.07	.10			
Prior LA Grade	.50***	.04	.55			
School Climate	.03	.04	.04			
Step 5				.35	.00	.93
Constant	34.68***	4.46				
Gender	-2.27*	1.04	-.09			
Grade Level	-5.19***	1.04	-.22			
Origin Birth	-.14	1.23	-.01			
FARL	4.88*	2.07	.10			
Prior LA Grade	.50***	.04	.55			
School Climate	.06	.05	.06			
Social Norms	-.10	.11	-.05			
Step 6				.35	.00	.01
Constant	35.35***	7.75				
Gender	-2.27	1.04	-.09			
Grade Level	-5.19***	1.04	-.22			
Origin of Birth	-.15	1.24	-.01			
FARL	4.18	6.85	.09			
Prior LA Grade	.50***	.04	.55			
School Climate	.06	.05	.06			
Social Norms	-.14	.37	-.07			
FARL X SNE	.04	.37	.02			

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Chapter IV

Discussion

This study provided evidence of a unitary construct that describes a student's perception of social norms in their school with regard to expectations of future achievement and quality of life. Further, this study found that over and above the influence of a variety of variables that have been shown in prior research to influence achievement, such as school climate and prior academic achievement, Social Normative Expectations account for a unique portion of variance in predicting end-of-year grades in English but not math. The relationship between these variables was unexpected in that it was inverse: less positive ratings of Social Normative Expectations predicted higher achievement in English classes. The hypothesis that Social Normative Expectations would be protective for low-income students, such that lower income students would have higher grades if they had higher ratings of Social Normative Expectations, was not supported.

Comparison with Literature

The proposed mechanism by which the relationship between Social Normative Expectations and achievement is mediated was inconsistent with findings. Based on the literature, it was hypothesized that given the strength of social norms for adolescents, beliefs regarding the perceptions of peers' academic and life future would influence student achievement in a similar direction (Bukowski, Brendgen & Vitaro, 2007). In a sense, if students believed that peers in their school would not do well, this social norm about expectations would strongly influence their own achievement expectation. At this point, a self-fulfilling prophecy

would influence their behavior and their achievement would be significantly worse as a result (Bandura, 1986, 1997). However, this was not the observed relationship. In contrast to literature on social norms and self-fulfilling prophecies, students in this low-income, largely minority school performed significantly better when they perceived those around them would have worse future academic and life outcomes.

This research lends support to the literature on the influence of non-cognitive factors on academic achievement. Constructs such as *mindset* (Dweck, et al., 2011) and *stereotype threat* (Steele & Aronson, 1995) suggest that how one thinks about achievement is important in students' actual achievement. The present study lends support to research suggesting that, in contrast to solely focusing on how students think about their own individual achievement and future expectations, it is important to evaluate how students think about the achievement and future expectations of students in the school in which they are embedded.

Consistent with literature on factors predicting grades, past academic achievement predicted future academic achievement in both end-of-year English and math grades (Weinstein, 2002). Also, consistent with the documented gender gap in achievement within minority samples (Franklin & Boyd-Franklin, 2000), there were gender differences in academic achievement such that female students scored higher than their male peers.

In contrast to research suggesting a positive relationship between school climate and grades (Stewart, 2007), school climate was not correlated with end-of-year grades. Also inconsistent with prior research suggesting that lower SES is related to lower academic achievement (Hemphill & Vanneman, 2011), in this

sample, students who received Free and Reduced Lunch had higher scores on English and math than a small cohort of students who were not eligible for FARL.

An additional unexpected finding concerned the role of grade level on academic achievement. There is no literature suggesting that math grades are influenced by grade level. Within this sample, however, for end-of-year math grades in 2012, 8th grade students received significantly higher grades than 7th grade students. For math grades in 2013, 7th grade students received significantly higher grades than 8th grade students. These differences were not observed in end-of-year English grades.

Explanation of Results

It seems that the construct, Social Normative Expectations, is a unified and reliable entity. Data support that this construct is best described by a single factor rather than multiple factors. As currently constituted, the items within the construct describe perceptions of expectations regarding future academic achievement and general life outcomes.

In the demographic findings, there was a significant difference in ratings of Social Normative Expectations between students born in the United States and students born outside the United States. Students born outside the United States perceived that students in their school would have better academic and life outcomes. This unexpected finding suggests a dynamic operating in the school that might help explain the inverse relationship between Social Normative Expectations and English grades. It may be that there is a culture of failure in the school that has

developed over time, particularly among students who have been born in the U.S. and likely have experienced a history of negative expectations.

With regard to the observed inverse relationship between Social Normative Expectations and end-of-year English grades, students who do relatively better academically in English classes may be better at perceiving the reality of the typically negative outcomes of students in their environment, such as low rates of graduation from the community high school and college attendance. Given the ability to accurately understand the perceptions of future academic failure, these students are able to create a distance between their perception of themselves, relative to the underachieving students in their school. Students who believe that students in their school will have good academic and life outcomes, despite the reality that a significant majority of students do not have academic success, may not be as competent at this cognitive skill. Thus, the ability to accurately perceive the reality of the norms in a school, a school where many students have poor academic success, may be a resilient skill that promotes academic success.

This ability may be related to a student's level of resiliency and *grit*, the ability to sustain interest and effort toward long-term goals (Duckworth, Peterson, Matthews & Kelly, 2007). It may be that the ability to accurately identify the reality of an environment may be a competency related to the ability to achieve in a low-academically achieving environment and be resilient.

Relatedly, for students who received higher grades and rated low achievement expectations of their peers, these students may have an ability to resist the dominant low achievement norm within the school. These students may be less

open to the influence of others. For students who perform well, in spite of a low-academically achieving norms and perceptions of the future, they may be less susceptible to conformity influences (Goldstein, Davis- Kean & Eccles, 2005). This may be a trait related to ones' level of *grit*.

With regard to unexpected results, English and math grades differed as a result of Free and Reduced Lunch eligibility such that students who were not eligible received higher grades in English and math. It may be that given the small cohort of students who were not eligible for FARL, this significance may be a result of the restricted range of this group within the overall sample. Alternatively, there may be a specific cultural identifier that accounts for why these students specifically did not receive FARL. These parents may have declined FARL and may represent a unique group within this sample.

School Climate was not correlated with academic achievement. However, School Climate was correlated with Social Normative Expectations and significant in predicting grades when included in the hierarchical regression model with Social Normative Expectations. It may be that there exists a dynamic relationship between the social norms in a school regarding expectations and the climate of the school.

Within the sample there was a difference in math scores as a result of grade level. This difference was observed in end-of-year math grades in 2012 and in 2013. In 2012, 8th grade students had significantly higher math scores than their 7th grade peers. A year later in 2013, 7th grade students had significantly higher grades than their 8th grade peers. It seems as if this cohort of students, transitioning from 7th to 8th grade, receives significantly lower math scores relative to their peers. In

addition, there was a significant difference in math scores as a result of gender.

Taken together, it seems as if there exists a group of males within the aforementioned cohort that is significantly decreasing the average math score of their class.

Suggestions for Future Research

Future research should replicate the factor analysis of Social Normative Expectations with similar related samples, given that the current research took place in a single school. As a result of the nascent stage of the construct, it will be important to measure its affect in a wider range of samples, such as predominantly higher achieving populations. In order to validate Social Normative Expectations as a generalized construct, it must be observed in other contexts and with sufficient internal consistency in each.

It is a limitation of this research that there was restricted range in assessing socioeconomic status and ethnicity. This sample was predominantly low-SES and the majority of students indicated being of Hispanic descent. Therefore, it is difficult to generalize beyond this context. In order to further understand how Social Normative Expectations affects children differentially, it will be important to compare students' perceptions in schools with greater socioeconomic and ethnic diversity, as well as higher rates of academic proficiency. In this way, the reliability and external validity of the construct can be explored and its effect on student achievement can be further understood.

Further research should seek to better understand the mechanisms and thought processes by which Social Normative Expectations affects achievement.

Given the inverse relationship between this construct and achievement, it seems as though the hypothesized mechanism is not the mediating process. Further research may better understand this relationship by evaluating students' perceptions of their own future achievement relative to their perceptions of the future achievement potential of students in their school. In understanding protective factors for high academically achieving students, this model can evaluate their perceptions of their own academic potential relative to their perceptions of the potential of their peers. This will help evaluate their level of openness to influence and susceptibility to conforming to a culture of failure.

Importantly, further research should explore the relationship between Social Normative Expectations and grit. It may be that for the high academically achieving students within this generally low- academically achieving school, this cognitive process is protective and related to grit. Given that grit is associated with higher achievement, specifically, for students embedded in relatively poor academically achieving environments, there may be an interaction between grit and Social Normative Expectation.

There was a significant correlation between School Climate and Social Normative Expectations. These factors also were both significant in a model to predict end-of-year grades in English. Future research should explore the interaction between the climate in a school and the social norms regarding academic and life expectations. Given the impact of School Climate interventions, understanding the interaction between these variables and how they influence

achievement may advance knowledge of how school climate interventions can positively impact perceptions of norms and academic achievement within schools.

Implications for Practice

In an educational climate focused on raising test scores through basic skill remediation, this research lends support to directing attention towards non-cognitive interventions. School Psychologists working in underserved populations are perpetually searching for interventions to provide protective assets and empowering skills for students. Thoughts about oneself and others are important in developing academic identities that form frameworks for thinking about ones' academic and life future. Building on research on the importance of perceptions, such as *self-fulfilling prophecies* and *academic mindsets*, this research lends support to the idea that interventions should also incorporate perceptions of the achievement potential of peers in a student's school.

In terms of individual intervention, it may be important to discuss perceptions of ones' expected academic achievement in relation to how a student expects others in their school to achieve. If a student is embedded in a low-achieving school, this research suggests that it may be helpful to know how they feel about a potentially low achieving social norm, and further, how this is related to their personal achievement expectations. This is to say, that over and above the influence of ones' perceptions of their own academic future, it is important to discuss how students perceive the academic expectation of their peers and how this might influence their own potential for success.

If the relationship between Social Normative Expectations and English grades is related to a student's ability to be resilient, this potentially accurate appraisal may be protective for many students embedded in schools in which it is typical for students to not have academic success. The ability to validly assess the reality of a situation may be a cognitive process that can promote achievement for these students. Importantly, this may operate more strongly in an area where effort and practice may matter more than basic ability, i.e., in English classes, and not in math classes.

Within a school, the perception of social norms with regard to future expectations of achievement and general life may be influential in achievement outcomes. Given this influence, it is important for schools to think about the actual norms in their school, such as graduation rates and potential for grade promotion, and ask how these might influence student's perception of social expectations with the knowledge that this seems to impact their own academic achievement.

For clinicians and educators alike, it is important to recognize and emphasize the difference between perception and reality. As research has suggested, there exists a dynamic relationship between ones' perceived reality and the actuality of a situation. Students may perceive that students in their school, or themselves, may not graduate high school and/or achieve in life. However, their trajectories are not necessarily concrete despite negative perceptions of the future for self and others, as shown in research by John and Alwyn (2010) in which changing perceptions about drinking behaviors on a university campus changed drinking behaviors. This may be an empowering perspective for students who

otherwise perceive a low probability of success within a school environment or perceive that their ability to achieve in relation to others is improbable.

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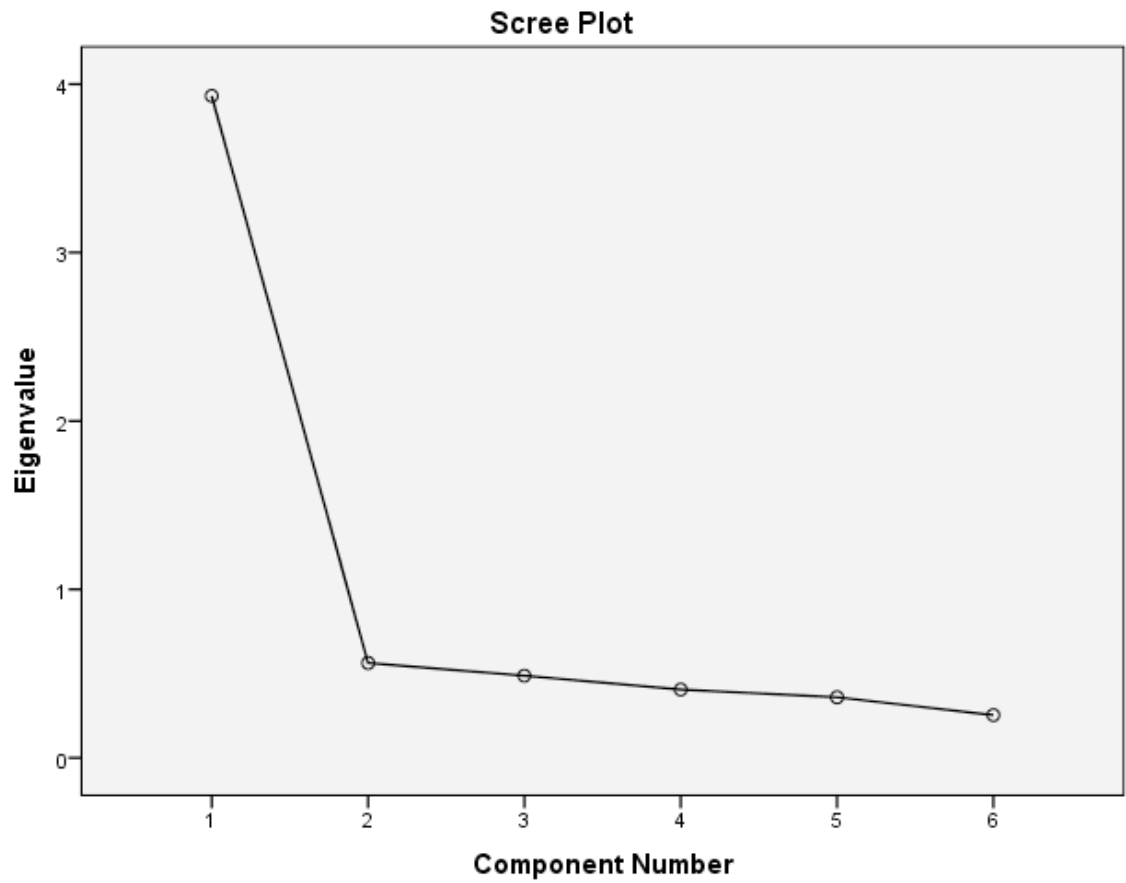
Appendix A

School As A Caring Community Profile- II (SAACCP-II)

1. Students treat classmates with respect
2. Students exclude those who are different
3. Students help each other even if they are not friends
4. When students do something hurtful they try to make up for it
5. Students try to get other students to follow school rules
6. Students work well together
7. Students are disrespectful towards their teachers
8. Students help new students feel accepted
9. Students pick on other students
10. Students are willing to forgive each other
11. Students resolve conflicts without fighting, insults, or threats
12. Students like being in this school
13. Students are involved in helping to solve school problems
14. Students can talk to their teachers about problems that are bothering them
15. In this school, students don't feel like they learn anything useful
16. Teachers go out of their way to help students who need extra help
17. Teachers in this school like to come here
18. In this school you can count on adults to try to make sure students are safe
19. Teachers are unfair in their treatment of students
20. Students here have a lot of school pride

Appendix B

Eigenvalues for Components of Social Normative Expectations



Appendix C

